

## **REMARKS**

This paper is presented in response to the Office Action. Claims 12 and 22 are canceled, and claims 1-5 and 25-27 were previously withdrawn by the Examiner. Claims 6-11, 13-21, and 23-24 are now pending in this application as a result of the aforementioned withdrawals and cancellations.

Reconsideration of this application is respectfully requested in view of the amendment herein and the following remarks. For the convenience and reference of the Examiner, the remarks of the Applicant are presented in the order in which the corresponding issues were raised in the Office Action.

### **I. Objection to the Drawings**

The Examiner has objected to the drawings under 37 C.F.R. 1.83(a), asserting that “the ‘each thin film filter (or thin film three-port device) of the drop portion configured to allow a particular channel to pass through while reflecting other channels’ in claims 8 and 18 . . . must be shown or the feature(s) canceled from the claim(s).” Applicant respectfully disagrees.

Particularly, Figure 7 clearly shows a variety of thin film devices 704, 712, 716 and 719 of a drop portion 701, and each of the thin film devices is clearly configured to allow one (or more) channel to pass through while reflecting one or more other channels. In this regard, Applicant notes that “a particular channel” is not limited to only one particular channel, inasmuch as “a” particular channel may be passed through, along with various other channels. In light of the foregoing, Applicant respectfully submits that the objection to the drawings, as such objection relates to claims 8 and 18, should be withdrawn.

The Examiner has also objected to the drawings as such drawings relate to claims 12 and 22. Applicant disagrees with the Examiner but submits that in light of the cancellation of claims 12 and 22 herein, the objection has been rendered moot and should accordingly be withdrawn.

### **II. Objection to the Specification**

The Examiner has objected to the specification “as failing to provide proper antecedent basis for the claimed subject matter.” Specifically, the Examiner alleges that “the specification fails to provide proper antecedent basis for: each thin film filter (or thin film three-port device) of the drop portion configured to allow a particular channel to pass through while reflecting other channels in claims 8 and 18.” Applicant disagrees.

Particularly, the attention of the Examiner is respectfully directed to paragraph [0049] of the specification where it is stated that “The thin film 708 is fabricated such that a first group of channels is allowed to pass through lens while a second group of channels is reflected into a reflection path fiber 710 that is disposed on the dual fiber pigtail 706,” (emphasis added), and also stated “By using the three stages shown in Figure 7, a demultiplexing function that separates out the needed channels can be accomplished.”

In light of the foregoing, Applicant respectfully submits that the objection to the specification should be withdrawn.

### **III. Claim Rejections**

#### **a. General considerations**

In connection with the matters contemplated herein, Applicant respectfully notes at the outset that the following discussion should not be construed to constitute an exhaustive enumeration of the distinctions between the claims of the present application and the references cited by the Examiner. Instead, such distinctions are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose future consideration, by the Applicant, of additional or alternative distinctions between the claims of the present application and the references cited by the Examiner.

Moreover, Applicant notes that the remarks herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited references. Such remarks, and/or a lack of remarks, should not be construed as an acquiescence, on the part of the Applicant, as to the purported teachings or prior art status of the cited references, nor as to the characterization of the cited references advanced by the Examiner. Accordingly, Applicant reserves the right to challenge the purported teaching and prior art status of the cited references at any appropriate time.

#### **b. claim rejections under 35 U.S.C. § 103(a)**

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2143.

##### **1. Purported obviousness of claim 6**

With attention now to the specific rejections, the Examiner has rejected claims 6, 7, 9-11, 13-17, 19-21, 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pub. No. 2003/0053747 to Cormack (“*Cormack*”) in view of U.S. 6,512,615 to Wu (“*Wu*”). For at least the reasons outlined herein however, Applicant respectfully disagrees with the Examiner and submits that the rejection of those claims should be withdrawn.

By way of example, the Examiner has characterized *Wu* as disclosing a “flat-top slicer” that “provides a channel separating function, which has adequate flatness and isolation (column 5, lines 49-52)” and the Examiner then goes on to assert that “it would have been obvious to modify the conventional

add/drop module [purportedly disclosed in *Cormack*] to include the flat-top slicer in the final stage of the add portion” (emphasis added). With regard to the claimed “add portion,” Applicant notes that claim 6 recites, among other things, “an add portion that adds channels of the WDM signal dropped by the drop portion back to the WDM signal” (emphasis added), wherein the claimed add portion comprises, among other things, a “thin film interleaver [with] a flat-top frequency response.

As noted above, the Examiner has characterized *Wu* as teaching a “flat-top slicer” that “provides a channel separating function.” Moreover, *Wu* would seem to confirm that characterization, stating “The present invention avoids the aforementioned problems through the use of a flat-top slicer as WDM 1 110. The flat-top slicer performs a wavelength separating function . . .” (col. 5, lines 49-51). Thus, the “flat-top slicer” of *Wu* is purported by *Wu*, and by the Examiner, to be concerned with channel separation while, in contrast, the thin film interleaver of claim 6 comprises an element of an add portion that “adds channels of the WDM signal.” Clearly, a channel separation function such as has been asserted in connection with the *Wu* device is quite different from the channel adding function with which the recited interleaver of claim 6 is concerned.

In light of the foregoing, Applicant respectfully submits that the position of the Examiner that it would be obvious to include the “flat-top slicer” of *Wu* in an “add portion” so as to produce the device recited in claim 6 is untenable. Particularly, the Examiner has not identified any reason why one of skill in the art would be motivated to modify the purported “conventional add/drop module” of *Cormack* with the channel separating “flat-top slicer” of *Wu* in order to produce the device recited in claim 6, inasmuch as the “flat-top slicer” of *Wu* is asserted to be concerned with channel separation while, on the other hand, the “thin film interleaver [with] a flat-top frequency response” of claim 6 is employed in connection with a channel adding function.

The rejection of the Examiner is problematic for other reasons as well. For example, it was noted above that the Examiner has asserted that “it would have been obvious to modify the conventional add/drop module [purportedly disclosed in *Cormack*] to include the flat-top slicer in the final stage of the add portion.” However, the Examiner has failed to demonstrate that such a modification would, in fact, result in the device actually recited in claim 6. Particularly, claim 6 does not, as the Examiner appears to assert, simply include an “add portion,” but states in particular that the “add portion . . . adds channels of the WDM signal dropped by the drop portion back to the WDM signal.” Thus, the Examiner has also failed to demonstrate that the allegedly obvious modification of the *Cormack* device with the *Wu* flat-top slicer would produce the claimed arrangement.

In addition, while the Examiner has alleged that it would be obvious to modify the *Cormack* device with the *Wu* flat-top slicer, *Cormack* would seem to counsel against such a modification. For example, the “Description of the Prior Art” in *Cormack* notes, with respect to the “conventional add/drop module” referred to by the Examiner that “Current drop/add multiplexor filters capable of handling the

required close-wavelength spacing either use dedicated filters for each channel, or use a cascade of band-splitting filters which result in a separate output fiber for each wavelength. Both methods require network designers to either limit the node's usable wavelengths or use redundant hardware" (para. 0008) (emphasis added). In light of these asserted shortcomings, *Cormack* then concludes that "A need remains in the art for a precise, tunable, low loss add/drop filter for use in fiber optic communication systems" (para. 0014).

Inasmuch as *Cormack* asserts various shortcomings of cascaded arrangements and purports to provide a solution to shortcomings of "current" devices, it is not clear why one of skill in the art would be motivated to modify such a device, as the Examiner has suggested would be obvious to do, rather than simply using the *Cormack* invention. As well, it is not clear that modification of the "conventional add/drop module," asserted by the Examiner to be disclosed in *Cormack*, with the *Wu* flat-top slicer would be adequate to overcome such shortcomings in any event, such that one of skill would be motivated to make the allegedly obvious modification rather than simply using the *Cormack* invention.

Finally, Applicant notes with respect to the claim rejections that it appears that the Examiner is relying on personal knowledge as a basis for rejecting at least some of the claims. Particularly, while the Examiner has stated that "the equivalent of the polarization-based filter includes a thin film interleaver such as a multi-cavity Fabry-Perot etalon, which includes a plurality of cavities comprising one or more thin film layer and a spacer and a final cavity comprising a spacer that includes a matching layer designed with an index of refraction intended to match the thin film interleaver to surrounding air or to another device, and it is well known that an interleaver based on the fused biconical taper technology includes a fused-fiber interleaver," the Examiner has not identified any of the cited references as disclosing the aforementioned materials. In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all reference(s), other than those specifically cited by the Examiner, upon which the obviousness rejection of claims 6, 7, 9-11, 13-17, 19-21, 23 and 24 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 6, 7, 9-11, 13-17, 19-21, 23 and 24.

In view of the foregoing discussion, Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness with respect to claim 6, at least because the Examiner has not established that there is a motive to combine reference teachings in the purportedly obvious manner and because the Examiner has not established that, even if reference teachings are combined, the resulting combination includes all the limitations of claim 6. Further, inasmuch as claims 7, 9-11, 13-14 include, by definition, the unobvious combination of claim 6, Applicant respectfully submits that the Examiner has failed to establish a case of prima facie obviousness with respect to those claims as well. Accordingly, Applicant submits that the rejection of claims 6, 7, 9-11 and 13-14 should be withdrawn.

**2. Purported obviousness of claims 15-17, 19-21, 23 and 24**

Similar to claim 6, claims 15-17, 19-21, 23 and 24 each require, among other things, an “optical add portion” that includes a “final stage . . . including a thin film interleaver with a flat-top frequency response.” At least to the extent that the discussion of claim 6 addresses the foregoing limitation, that discussion is germane as well to claims 15-17, 19-21, 23 and 24, and the attention of the Examiner is respectfully directed to such discussion.

In light of the foregoing, Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness with respect to claims 15-17, 19-21, 23 and 24 and, accordingly, the rejection of those claims should be withdrawn.

**3. Purported obviousness of claims 8, 12, 18 and 22**

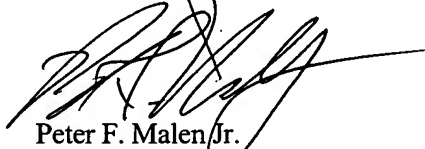
As claims 12 and 22 have been canceled herein, the rejection of those claims has been rendered moot and should be withdrawn. Inasmuch as the rejection of claims 8 and 18 relies on the purportedly obvious combination of *Cormack* and *Wu*, discussed above in connection with claim 6, the rejection of claims 8 and 18 lacks an adequate basis and should be withdrawn.

### CONCLUSION

In view of the remarks and amendments submitted herein, Applicant respectfully submits that each of the pending claims 6-11, 13-21, and 23-24 is now in condition for allowance. Therefore, reconsideration of the rejections is requested and allowance of those claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 27<sup>TH</sup> day of June, 2005.

Respectfully submitted,



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